

What is claimed is:

1. A Potter-Bucky device for being positioned in a radiation image recording apparatus for exposing an image recording medium to radiation which has passed in a first plane through an object to the recording medium in order to record a radiation image of the object on the recording medium, comprising:

a grid movably supported for reciprocating motion in a second plane extending parallel to the recording medium between the object and the recording medium;

at least one movable cam positioned adjacent the grid and causing reciprocating movement of the grid in the second plane parallel to the recording medium upon movement of the cam; and

a counter-weight movably supported and operatively connected to the grid for reciprocating motion in the second plane in directions opposite the grid.

2. A Potter-Bucky device as claimed in claim 1, wherein a mass of the grid is substantially equal to a mass of the counter-weight.

3. A Potter-Bucky device as claimed in claim 2, wherein an inertia of the grid is equal to an inertia of the counter-weight during reciprocating motion.

4. A Potter-Bucky device as claimed in claim 1, further comprising a motor operatively connected to the cam for causing movement of the cam adjacent the grid.

5. A Potter-Bucky device as claimed in claim 1, wherein the cam is positioned between the grid and the counter-weight.

6. A Potter-Bucky device as claimed in claim 1, further comprising at least one spring biasing the grid against the cam.

7. A Potter-Bucky device as claimed in claim 6, wherein the spring comprises a tension spring connected between the grid and the counter-weight and biasing the grid and the counter-weight against the cam.

8. A Potter-Bucky device as claimed in claim 6, wherein the spring comprises a compression spring, and the grid is positioned between the spring and the cam.

9. A Potter-Bucky device as claimed in claim 8, further comprising a second compression spring, and the counter-weight is positioned between the second compression spring and the cam.

10. A Potter-Bucky device as claimed in claim 1, wherein the cam is rotatable.

11. A Potter-Bucky device as claimed in claim 10, wherein the cam is elliptical.

12. A Potter-Bucky device as claimed in claim 1, wherein the grid is movably supported by linear bearings.

13. A method for moving a grid in a Potter-Bucky device, comprising:
 movably supporting the grid for reciprocating motion in a plane;
 positioning at least one movable cam adjacent the grid;
 moving the cam to cause reciprocating movement of the grid in the plane; and
 attaching a counter-weight to the grid for reciprocating motion in the plane in directions opposite the grid.

14. A method according to claim 13, wherein a mass of the grid is substantially equal to a mass of the counter-weight.

15. A method according to claim 13, wherein an inertia of the grid is equal to an inertia of the counter-weight during reciprocating motion.
16. A method according to claim 13, wherein the cam is positioned between the grid and the counter-weight.
17. A method according to claim 13, further comprising biasing the grid against the cam.
18. A method according to claim 13, further comprising biasing the counter-weight against the cam.
19. A method according to claim 13, wherein the cam is rotated.
20. A method according to claim 13, wherein the cam is elliptical.
21. A Potter-Bucky device, comprising:
 - a frame;
 - tracks secured to the frame;
 - a first set of brackets slidably received in the tracks for supporting a grid;
 - a second set of brackets slidably received in the tracks;
 - a counter-weight secured to the second set of brackets;
 - a drive pulley and an idler pulley secured to the frame; and
 - a continuous belt extending around the drive pulley and the idler pulley such that the belt include first and second portions which move in opposite directions between the pulleys upon rotation of the drive pulley;

wherein the first set of brackets is secured to the first portion of the continuous belt and the counter-weight is secured to the second portion of the continuous belt.

22. A Potter-Bucky device as claimed in claim 21, wherein a grid is secured to the first set of brackets.

23. A Potter-Bucky device as claimed in claim 22, wherein a mass of the grid is substantially equal to a mass of the counter-weight.

24. A Potter-Bucky device as claimed in claim 22, wherein an inertia of the grid is equal to an inertia of the counter-weight during reciprocating motion.

25. A Potter-Bucky device as claimed in claim 21, further comprising a reversible motor operatively connected to the drive pulley.